

REMARKS

Careful has been consideration has been given to the Official Action of December 20, 2004 and reconsideration of the application as amended is respectfully requested.

Drawings

The Examiner has objected to the Drawings as failing to show all features of the claimed invention.

Submitted herewith are replacement sheets of Figs 1-7 in which some reference numerals have been changed and where the active reaction layer 20 has been included. The claims are now believed to be fully supported by the drawings.

Specification

The Examiner objects to the specification as failing to provide proper antecedent basis for the claimed subject matter. The specification has been amended not only to correspond with the numeral changes in the amended drawings but also to provide specific antecedent support for the various terms used in the claims. Thus, for example the term 'inflow area' has been amended to 'inflow channel'. The term 'close space' has been amended to 'closed chamber'. The term 'U-shaped opening' has been amended to 'slot'. Also, the term 'base plate' has been amended to 'substrate'. The term 'spacing layer' has been amended to 'middle layer'.

There is now consistency between the specification and the claims and the drawing is in conformance with the description in the specification.

Claim Objections

The Examiner has objected to claims 24 and 25 as being of improper dependent form. These claims have been cancelled and the objection no longer applies.

Claim Rejections - 35 U.S.C. 112

Claim 27 has been rejected as lacking antecedent basis for the terms 'working electrode' 'reference electrode' and 'auxiliary electrode'.

The definite article has been changed in this claim to the indefinite article, thereby obviating the rejection.

Claim Rejections 35 U.S.C. 103

The Examiner has rejected the claims in the application on a combination of references under 35 U.S.C. 103. It is respectfully submitted that the claims as now amended are clearly distinguished from the references which constitute the rejection under 35 U.S.C. 103.

Claim 1 recites an electrochemical biosensor where an upper cover is adhered to an insulating middle layer, and the upper cover is formed with an upwardly extended closed chamber therein above and in communication with one end of a slot formed in the insulating middle layer. The slot defines a capillary inflow channel such that a sample can be rapidly introduced into and fill an electrode reaction area by capillary action upon contact with the front tip of the capillary inflow channel, and the sample is configured not to travel from the chamber beyond the capillary inflow channel. That is to say, because the chamber is a closed space, when the sample is introduced to the inflow channel by capillary action or siphon, it will also compress the air in the chamber and increase the air pressure which, in turn, will force the sample flow to stop at a point along the inflow channel which is not beyond the chamber. Therefore, the volume of the sample can be controlled effectively and possible contamination can be avoided.

Contrary to the subject invention, Bhullar (US 6,488,828) discloses a recloseable biosensor where a middle portion 46 of a cover 24 can be lifted by a tab 48 such that a liquid sample 133 can be dropped to a sample site 66 of a middle substrate 14 through an opening 40. After drying, a reagent mesh 22 is placed over the opening 40 and the sample site 66 can be closed by the cover 24. With such configuration, the volume of liquid sample cannot be controlled effectively which is likely to cause contamination and inconvenience. In addition, Bhullar has neither disclosed a capillary inflow channel formed in a middle layer, nor an upper cover adhered to the middle layer and formed with an upwardly extended closed chamber therein above and in communication with one end of the inflow channel. For persons skilled in the art,

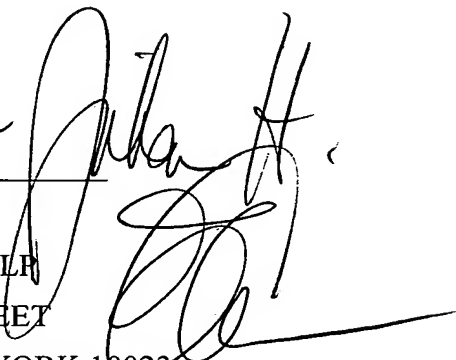
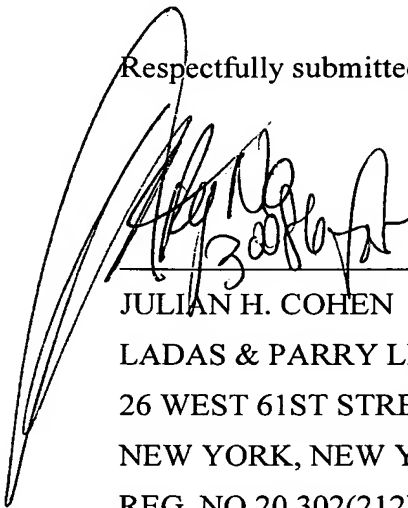
the application of conventional capillary action usually involves a tube-like configuration with two open ends and it is NOT obvious that such application can be utilized to an inflow channel in communication with a closed chamber at one end and use the air pressure in the chamber to control the flow of sample. Therefore, it is submitted that the subject invention is patentable over Bhullar.

US 5,120,420 (Nankai) discloses a biosensor comprising an outlet (11). When sample solution is introduced into a space (8), the air within the space (8) is rapidly discharged through the outlet (11) and at the same time, the space (8) is filled with the sample solution up to the region of the outlet (11). As discussed in the specification, the volume of the sample flowing into the space (8) cannot be controlled, since the sample solution is likely to flood the outlet (11) and cause contamination. Although Nankai has disclosed electrically conductive wires, it is submitted that the combination of Bhullar and Nankai can NOT arrive at the invention as defined in Claim 1 and its dependent claims. Similarly, it is submitted that Claims 5 and 21 are patentable over Bhullar, Nankai and US 6,793,802 (Lee) Claim 23 is deemed patentable over Bhullar, Nankai and U.S. 6,299,757 (Feldman).

Claim 27 recites a method of fabricating electrochemical biosensor wherein an opening defines a closed chamber within an upper cover above and incommunication with one end of a slot formed in the middle layer. The slot defines a capillary inflow channel such that a sample can be rapidly introduced into and fill an electrode layer by capillary action upon contact with the front tip of the capillary inflow channel, and the sample is configured not to travel beyond the chamber along the capillary inflow channel. Nankai, Bhullar and US 6,309,526 have not disclosed such features and it is submitted that Claims 27-29 are patentable over Nankai, Bhullar and US 6,309,526 (Fujiwara) for similar reasons as described in the previous paragraphs.

In view of the above action and comments it is respectfully submitted that the claims are no longer subject to rejection on the cited art and allowance of the application is earnestly solicited

Respectfully submitted,



JULIAN H. COHEN
LADAS & PARRY LLP
26 WEST 61ST STREET
NEW YORK, NEW YORK 10023
REG. NO.20,302(212)708-1887

IN THE DRAWINGS

Replacement sheets of Figs. 1-7 are submitted herewith.